The Nebraska Diabetes Consensus Guidelines

The Nebraska Health and Human Services System has developed and distributed the Nebraska Diabetes Consensus Guidelines of Diabetes Care for both adult and pediatric patients to health professionals throughout the State since 1999. These guidelines were developed in conjunction with multiple primary and specialty care physicians, diabetes educators, and representatives of the major managed care plans in the State of Nebraska and were based on the American Diabetes Association's (ADA) Standards of Care.

After implementation of the guidelines by physicians, diabetes educators and insurance plans, some revisions were indicated; also, the ADA Guidelines have been updated annually (latest changes were published in Diabetes Care, Volume 28, Supplement 1, 2005) which changes some of the indicator goals. These changes have been incorporated in the revised Nebraska Diabetes Consensus Guidelines, which are attached.

We have placed the guidelines in several formats as flow sheets that can be used in patient charts for documenting results. All of these may be copied as they are or revised to better serve your needs. The goals of developing the consensus guidelines and the flow sheets are:

- to reach agreement on a consistent set of guidelines suggested for use in the management of diabetes in Nebraska; and
- to increase awareness that good blood glucose control can lead to decreased complications, decreased hospitalizations, and improved quantity and quality of life for people with diabetes.

We hope these guidelines will be useful to you. They will be placed on the Nebraska Diabetes Prevention and Control Program's website in the near future at: http://www.hhs.state.ne.us/dpc/ndcp.htm. If you have any questions or concerns, or would like information on other diabetes materials that are available, please contact the Nebraska Diabetes Prevention and Control Program of the Department of Health and Human Services at 1-800-745-9311 and ask for the Diabetes Section or e-mail: joyce.pope@hhss.state.ne.us

The Nebraska Diabetes Consensus Guidelines

The following are the authors of the Nebraska Diabetes Consensus Guidelines and represent dedicated individuals and organizations committed to improving diabetes care in Nebraska. The Nebraska Diabetes Prevention and Control Program wishes to thank them for giving of their time and expertise to help with this project.

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Goals of Medical Care for Adults and Children with Diabetes
An Overview of Self-Management Education

1. Lifestyle Review

A number of lifestyle behaviors and situations, including smoking, use of alcohol and street drugs, stress, depression and unplanned pregnancies, can affect immediate and long-term outcomes of diabetes. Patients should be instructed regarding smoking cessation, effects and risks of alcohol and/or street drugs, and the effects and management of stress/depression. Women of childbearing age from adolescence to menopause must be adequately informed of pre-pregnancy planning with optimum control of blood glucose before and during pregnancy. This would include instruction regarding options for birth control.

2. Sick Day Management and Urine Ketone Testing

Patients need to know how to manage their diabetes during an episodic illness to prevent extreme hyperglycemia and maintain hydration and nutrition. Patients with type 1 diabetes should be instructed on how to prevent or detect ketoacidosis with frequent blood glucose monitoring and urine ketone testing. Some people benefit from instruction on how to give additional insulin when blood glucose levels are increasing to prevent hospitalization and when it is appropriate to their care. All people with diabetes should be taught when to call their health care provider during an illness and when to go to the emergency department.

3. Medication Administration

Instruction includes the action and side effects of insulin and oral medications. The exact dosage and administration schedule should be written out clearly and provided as a resource for the patient. The administration schedule should be tailored to the patient's daily work hours, school, exercise and meal schedule. Instruction in insulin administration includes accuracy in the technique of drawing up and injecting the dose, rotation of injection sites, rotation of injection areas (i.e., abdomen to thigh) and storage of insulin at home and away. Any use of insulin adjustment schedules should be carefully explained and written out for the patient. Patients should be taught to record the doses of both insulin and oral agents in the blood glucose record book.

4. Monitoring Blood Glucose Control

Blood glucose testing and recording of results give individuals an active role in their health care and encourage responsibility. Self-blood glucose monitoring is essential to management of diabetes and must be stressed as such. The monitoring system must be easy to use, easily portable, accurate and reliable. The frequency and timing of testing varies depending on the treatment regimen. The patient who is treated with dietary changes and exercise can use blood glucose test results as immediate feedback regarding the effects of their efforts. Positive feedback can reinforce those efforts and increase self-motivation. Patients should be given goals in writing for the blood glucose results. Recording of the results should be documented in a patient record book to enable the patient and health care provider to look at trends, recognize successes and assess the effectiveness of the medication changes. Patients should understand the use of A1c monitoring and the specific goal in diabetes management. They should know their A1c goal and current results.

5. Hypoglycemia Treatment

Instruction about hypoglycemia includes recognition of symptoms, level of blood glucose, treatment and prevention. Symptoms of hypoglycemia vary between individuals; patients should use blood glucose testing to determine the actual meaning of symptoms. The plan for treatment should include options for the fast-acting sugar source and the follow-up snacks, what to carry with them and how to prevent hypoglycemia (i.e., regular meals and snacks, testing as often as needed, particularly before exercise, or increased physical activity). Patients' family and friends should be taught the symptoms to look for and how to recognize when the person needs assistance. Patients on insulin need to have glucagon injections available and their families and friends should be taught to administer the drug when necessary. Schools should provide for administration of glucagon in the event of severe hypoglycemia at school. Instruction should include effects of beta-blockers on symptoms of hypoglycemia.

6. Nutrition Management

A consultation with a dietitian is the most effective method of promoting good nutrition in the management of diabetes. Individualized nutrition recommendations and instruction must take into consideration lifestyle, ethnic differences, metabolic needs and metabolic control (lipids, blood glucose, weight management). The nutrition plan must be integrated into the overall diabetes management plan through a multi-disciplinary approach. There are numerous strategies and teaching or education tools that can be used to implement the plan and achieve the glucose, lipid and nutrition goals. An individualized approach is recommended.

7. Foot Care

The goal of instructing a patient in daily foot care is the identification and prevention of foot problems that could lead to amputation. Most important is the daily inspection for problems and when to seek help from a health care professional. Other topics include appropriate footwear, management of minor foot problems, benefits of extra depth shoes, and the dangers of soaking feet, hot water bottles and heating pads. Additional information includes the avoidance of foot trauma and smoking cessation. Presence and degree of neuropathy, presence of peripheral vascular disease, and the implications for foot care. They should be instructed to remove their shoes and stockings and have their feet examined at each visit.

8. Physical Activity

Physical activity has a key role in the management of diabetes and must be integrated into the overall plan of care. Physical activity has important physiologic and metabolic benefits for people with both type 1 and type 2 diabetes. Cardiovascular fitness and psychological well being also improve with increased physical activity. In persons with type 2 diabetes and insulin resistance, physical activity will increase sensitivity to insulin. Self-monitoring of blood glucose is essential to avoid hypoglycemia as well as a motivator for continuing the effort. Special attention is needed to design an exercise program that takes into consideration the person's special needs and the type of exercise that is practical for that individual. Prior to starting an exercise program, patients should have an assessment of cardiovascular risk and evaluation for previously undiagnosed hypertension, retinopathy, neuropathy, nephropathy and lower extremity pathology. A graded exercise test is recommended for all individuals with type 2 diabetes more than 35 years of age and individuals with type 1 diabetes with duration of disease greater than 15 years. Patients should be taught how to recognize symptoms that indicate they should stop exercising and/or consult a health care provider.

9. Eye Care

Early detection and treatment of diabetic retinopathy is essential to preventing blindness in persons with diabetes. Diabetic retinopathy is the most frequent cause of new cases of blindness among adults aged 20-74 years*. During the first two decades following the onset of diabetes, nearly all patients with type 1 diabetes and more than 60% of patients with type 2 diabetes have retinopathy*. More than 30,000 people in Nebraska age 18 and older have diabetic retinopathy.

Knowledge of the presence of retinopathy is one more piece of evidence for the Primary Care Physician to utilize in the overall management of the diabetic patient.

The American Diabetes Association recommends a dilated retinal eye examination as an annual standard of care for persons with diabetes:

- Underage 10: Based on clinical judgement.
- Type 1: Within 3-5 years of diagnosis; annually thereafter.
- Type 2: At time of diagnosis of diabetes; annually thereafter. In known pregnancy, dilated eye exam every trimester.

10. Nephropathy Screening

Diabetic nephropathy occurs in 20-40% of patients with diabetes and is the single leading case of End State Renal Disease. Annual screening for microalbuminuria is recommended. Either a spot urine for microalbumin/creatinine ratio or a 24-hour urine test for microalbumin is acceptable. Treatment with an Angiotensin Converting Enzyme (ACE) Inhibitor should be considered for Type 1 patients with any degree of microalbuminuria and for Type 2 patients with microalbuminuria. ARB's (angiotensin receptor blocker) may be used alternatively where the patient experiences intolerance to or hyperkalemia from ACE-1 therapy. Annual testing should be continued after ACE or ARB therapy in order to monitor effectiveness and titrate dosage of medication. Patients with Glomerular Filtration Rate of <60 ml/min should be referred to a nephrologist.

11. Hypertension (High Blood Pressure)

Blood pressure should be measured at every diabetes-related visit. Hypertension (blood pressure at or above 140/90) affects the majority of patients with diabetes. Hypertension is a major risk factor for heart attack and stroke, as well as diabetic complications such as retinopathy and nephropathy. Randomized clinical trials have demonstrated reduced risk for these conditions when the blood pressure is lowered below 130/80. Many different medications may be used to treat hypertension. Most patients with diabetes will need to take at least two medications in order to achieve blood pressures below 130/80. Almost all patients with diabetes and hypertension should be treated with a medication regimen that includes either an angiotension-converting enzyme inhibitor (“ACE”) or an angiotensin receptor blocker (“ARB”), as these agents have been shown to reduce the risk of complications more than other classes of medications. Diuretics, beta-blockers, and calcium channel blockers are also beneficial for patients with diabetes and hypertension. In addition to medications, lifestyle modifications can help lower blood pressure. These modifications include increased consumption of fruits, vegetables, and low-fat dairy products; reduced intake of sodium and alcohol; increased physical activity; weight loss (when indicated); and quitting smoking.

These are guidelines to be adapted into the clinician's practice recommended by the Nebraska Diabetes Consensus Guidelines Task Force.

Patient Name: _____ **Date of Birth:** ___/___/___ **Year of Diagnosis:** _____

Attended Diabetes Self-Management Classes: Yes ___ **No** ___ **If yes, When/Where:** _____

Follow-up Education with CDE/RD: Yes ___ **No** ___ **If yes, When/Where:** _____

Complications: _____

Frequency may be every** diabetes-related **visit – to be determined by physician

Indicators	Frequency*	Goals *(1)*	Date/Results	Date/Results	Date/Results	Date/Results
Weight or BMI Percentage (2)		**Desirable wt: ____**				
Blood Pressure	**Every Visit**	**<130/80 mm/Hg**				
Foot Exam/Pulses (3)	**Every Visit**					
Skin/injection Sites	**Every Visit**					
Blood Glucose	**Every Visit**					
Review of Self-Blood Glucose Monitoring Record (80-120 mg/dl premeals; 100-140 mg/dl at bedtime)	**Every Visit**	**Fill in Goal for this patient.**				
Tobacco Use Status -Using/Doesn't Use -Smoking Cessation if using	**Every Visit**					
Review/Update Current Meds	**Every Visit**					
Consider daily aspirin use	**Every Visit**	**81-325 mg. aspirin**				
Consider Ace inhibitors	**Every Visit**	**ACEI/ARB**				
Consider Statins	**Every Visit**					
A1c (Hemoglobin A1c)						
-insulin treated	**Quarterly**	**Minimum goal <7%)** (4)				
-non-insulin treated	**2-4 times/yr or as needed**					
Referred for Dental Exam	**Bi-annual**	**Exam Date/Dentist:**				
Annual Exam/History Update	**Yearly**					
Abdominal Exam	**Yearly**					
Neurological Exam/Depression Screening	**Yearly**					
Cardiac Assessment/Pulses	**Yearly**					
Thyroid Assessment (5)	**Yearly**					
Referred for Dilated Eye Exam (6)	**Yearly**	**Exam Date/ Physician:**				
Total Cholesterol (7)	**Yearly**	**<200 mg/dl**				
HDL-C (7)	**Yearly**	**>50 mg/dl females >40 mg/dl males**				
Triglycerides (7)	**Yearly**	**<150 mg/dl**				
Calculated or Measured LDL Assessment (7)(8)	**Yearly**	**<100 mg/dl**				
Random spot urine for albumin /creatinine ratio or 24-hour urine for micro albumin (9)	**Yearly**	**<30 ug/mg creatinine <30 mg/24 hr**				
Influenza Vaccine	**Yearly**	**Date/location:**				
Pneumococcal Vaccination (10)		**Date/location:**				

(1) Based on American Diabetes Association: Standards of Medical Care for Patients With Diabetes Mellitus. Diabetes Care 28 (Suppl. 1): January 2005.
(2) Healthy BMI: 18.5-24.9; underweight BMI: less than 18.5; overweight BMI: 25.0-29.9; obese BMI: 30 or more.
(3) Annual comprehensive foot exam.
(4) AACE recommends < 6.5%.
(5) Thyroid function tests when indicated.
(6) Type 1 annually 5 years after onset and Type 2 annually; both by ophthalmologist or optometrist experienced in management of diabetes retinopathy.
(7) Lipid profile, annually. If within normal limits, the clinician may consider obtaining less frequently.
(8) 2004 National Cholesterol Education Program (NCEP) clinical practice guidelines recommend treating to <70 mg/dL. Adult Treatment Panel (ATP) III goal is <100 for high-risk patients and<70 for very high-risk patients.
(9) Five years after diagnosis, then annually at adolescence for Type 1; at diagnosis for Type 2.
(10) Centers for Disease Control & Prevention Guidelines: once and repeat after 65 years of age if greater than 5 years after last vaccination. (MMWR Vol. 46 pg. 11).

BASIC SELF-MANAGEMENT EDUCATION
ROUTINE VISITS - ADULT PATIENTS

	Date	Comments – Update Yearly for All
Lifestyle review: (smoking, alcohol, stress, depression, birth control, pre-pregnancy counseling)		
Sick day management and Urine ketone testing		
Medication administration		
Self blood glucose monitoring		
Hypoglycemia treatment		
Nutrition management		
Foot care (Separate sheet)		
Physical activity management		
Eye care (separate sheet)		
Nephropathy		
Hypertension (high blood pressure)		
Formal Self-Management Diabetes Education		

Guidelines of Medical Care for Adult Patients with Diabetes (1) ***(Rev. 04/05) (Previous editions obsolete.)***

These are guidelines to be adapted into the clinician's practice recommended by the Nebraska Diabetes Consensus Guidelines

Patient Name: _____ Date of Birth: ___/___/___

Year of Diagnosis: _____

Attended Diabetes Self-Management Classes: Yes ___ No ___ If yes, When/Where: _____

Follow-up Education with CDE/RD: Yes ___ No ___ If yes, When/Where: _____

Complications: _____

Frequency may be every** diabetes-related **visit – to be determined by physician

EVERY VISIT						
Indicators	Frequency*	Goals *(1)*	Date/Results	Date/Results	Date/Results	Date/Result
Weight or BMI Percentage (2)		**Desirable wt: ____**				
Blood Pressure	**Every Visit**	**<130/80 mm/Hg**				
Foot Exam/Pulses (3)	**Every Visit**					
Skin/injection Sites	**Every Visit**					
Blood Glucose	**Every Visit**					
Review of Self-Blood Glucose Monitoring Record (80-120 mg/dl premeals; 100-140 mg/dl at bedtime)	**Every Visit**	**Fill in Goal for this patient.**				
Review/Update Current Meds	**Every Visit**					
Tobacco Use Status -Using/Doesn't Use -Smoking Cessation if using	**Every Visit**					
Consider daily aspirin use	**Every Visit**	**81-325 mg. Aspirin**				
Consider Ace inhibitors						
A1c (Hemoglobin A1c)		**Minimum goal <7%)** (4)				
-insulin treated	**Quarterly**					
-non-insulin treated	**2-4 times a year, or as needed**					

Yearly, Biannually or One-time				
Indicators	Frequency *	Goals *(1)*	Date/Results	
Referred for Dental Exam	**Bi-annual**	**Exam Date/Dentist:**		
Annual Exam/History Update	**Yearly**			
Abdominal Exam	**Yearly**			
Neurological Exam/Depression Screening	**Yearly**			
Cardiac Assessment/Pulses	**Yearly**			
Thyroid Assessment (5)	**Yearly**			
Referred for Dilated Eye Exam (6)	**Yearly**	**Exam Date/ Physician:**		
Total Cholesterol (7)	**Yearly**	**<200 mg/dl**		
HDL-C (7)	**Yearly**	**>50 mg/dl females >40 mg/dl males**		
Triglycerides (7)	**Yearly**	**<150 mg/dl**		
Calculated or Measured LDL Assessment (7)(8)	**Yearly**	**<100 mg/dl**		
Random spot urine for albumin /creatinine ratio or 24-hour urine for micro albumin (9)	**Yearly**	**<30 ug/mg creatinine** **<30 mg/24 hr**		
Influenza Vaccine	**Yearly**	**Date/location:**		
Pneumococcal Vaccination (10)		**Date/location:**		

(11) Based on American Diabetes Association: Standards of Medical Care for Patients With Diabetes Mellitus. Diabetes Care 28 (Supp
(12) Healthy BMI: 18.5-24.9; underweight BMI: less than 18.5; overweight BMI: 25.0-29.9; obese BMI: 30 or more.
(13) Annual comprehensive foot exam.
(14) AACE recommends <6.5%.
(15) Thyroid function tests when indicated.
(16) Type 1 annually 5 years after onset and type 2 annually; both by ophthalmologist or optometrist experienced in management of d
(17) Lipid profile, annually. If within normal limits, the clinician may consider obtaining less frequently.
(18) 2004 National Cholesterol Education Program (NCEP) clinical practice guidelines recommend treating to <70 mg/dL. Adult Treatm for high-risk patients and <70 for very high-risk patients.
(19) Five years after diagnosis, then annually at adolescence for Type 1; at diagnosis for type 2.
(20) Centers for Disease Control & Prevention Guidelines: once and repeat after 65 years of age if greater than 5 years after last vacci

BASIC SELF-MANAGEMENT EDUCATION - ROUTINE VISITS – ADULT PATIENTS

	Date	Comments – Update Yearly fo
Lifestyle review**: (smoking, alcohol, stress, depression, birth control, pre-pregnancy counseling)**		
Sick day management and Urine ketone testing		
Medication administration		
Self blood glucose monitoring		
Hypoglycemia treatment		
Nutrition management		
Foot care (Separate sheet)		
Physical activity		
Eye care (separate sheet)		
Nephropathy		
Hypertension (high blood pressure)		
Formal Self-Management Diabetes Education		

Guidelines of Medical Care for Pediatric Patients with Diabetes (1) ***(Rev. 04/05) (Previous editions obsolete.)***

These are guidelines to be adapted into the clinician's practice recommended by the Nebraska Diabetes Consensus Guidelines

Patient Name: _____ Date of Birth: ___/___/___

Year of Diagnosis: _____

Attended Diabetes Self-Management Classes: Yes ___ No ___ If yes, When/Where: _____

Follow-up Education with CDE/RD: Yes ___ No ___ If yes, When/Where: _____

Complications: _____

Frequency may be every** diabetes-related **visit – to be determined by physician

Indicators	Frequency*	Goals *(1)*	Date/Results	Date/Results	Date/Results	Date/Results
Height	**Every Visit**					
Weight or BMI Percentage	**Every Visit**					
Tanner Stage	**Yearly**					
Blood Pressure	**Every Visit**	**Age specific guidelines**				
Foot Exam/Pulses (2)	**Every Visit**					
Skin/injection Sites	**Every Visit**					
Blood Glucose	**Every Visit**					
Review of Self-Blood Glucose Monitoring Record (3)	**Every Visit**	**Age specific guidelines**				
Review/Update Current Meds	**Every Visit**					
Tobacco Use Status -Using/Doesn't Use -Smoking Cessation if using	**Every Visit**					
A1c (Hemoglobin A1c)	**Every Three Months**	**Minimum goal <7%**				
Referred for Dental Exam	**Bi-annual**	**Exam Date/Dentist:**				
Annual Exam/History Update	**Yearly**					
Abdominal Exam	**Yearly**					
Neurological Exam/Depression Screening	**Yearly**					
Cardiac Assessment/Pulses	**Yearly**					
Thyroid Assessment (4)	**Yearly**					
Referred for Dilated Eye Exam (5)	**Yearly**	**Exam Date/Physician:**				
Total Cholesterol (6)	**Yearly**	**<170 mg/dl**				
HDL-C (6)	**Yearly**					
Triglycerides (6)	**Yearly**					
Calculated or Measured LDL Assessment (6)	**Yearly**	**≤100 mg/dl** (6)				
Random spot urine for albumin /creatinine ratio or 24-hour urine for micro albumin (7)	**Yearly**	**<30 ug/mg creatinine** **<30 mg/24 hr**				
Influenza Vaccine	**Yearly**	**Date/location:**				
Pneumococcal Vaccination (8)		**Date/location:**				

(21) Based on American Diabetes Association: Standards of Medical Care for Patients With Diabetes Mellitus. Diabetes Care 28 (Suppl. 1): January 2005.
(22) Annual comprehensive foot exam.
(23) Daytime: <5 years. 100-200; >5 yrs. 70-150 or as determined by physician; nighttime: <5 years. 150-200; >5 yrs. 120-180 or as determined by physician.
(24) Thyroid function tests annually with type 1; type 2, at time of diagnosis and as indicated.
(25) Type 1, annually 5 years after onset; type 2, annually by ophthalmologist or optometrist experienced in management of diabetes retinopathy.
(26) Perform a fasting lipid panel on all children >2 years at the time of diagnosis (after glucose control has been established); if values are within normal levels and family history is not a concern, follow-up is recommended at 5-year intervals thereafter. (Nebraska Diabetes Consensus Guidelines Task Force recommendation.)
(27) Annual screening once child is 10 years of age. (Nebraska Diabetes Consensus Guidelines Task Force recommendation.)
(28) Centers for Disease Control & Prevention Guidelines.

BASIC SELF-MANAGEMENT EDUCATION – ROUTINE VISITS
PEDIATRIC PATIENTS

	Date	Comments – Update Yearly for All
Lifestyle review**:** **(smoking, alcohol, stress, depression, birth control, pre-pregnancy counseling)**		
Sick day management and Urine ketone testing		
Medication administration		
Self blood glucose monitoring		
Hypoglycemia treatment		**80-180 mg/dl pre-meals;** **≤200 mg/dl at bedtime**
Nutrition management		
Physical activity management		
Foot care (separate sheet)		
Eye Care (separate sheet)		
Nephropathy		
Hypertension (high blood pressure)		
Formal Self-Management Diabetes Education		

Guidelines of Medical Care for Pediatric Patients with Diabetes (1) ***(Rev. 04/05)***
(Previous editions obsolete.)

These are guidelines to be adapted into the clinician's practice recommended by the Nebraska Diabetes Consensus Guidelines

Patient Name: _____ Date of Birth: ___/___/___

Year of Diagnosis: _____

Attended Diabetes Self-Management Classes: Yes ___ No ___ If yes, When/Where:

_____

Follow-up Education with CDE/RD: Yes ___ No ___ If yes, When/Where:

_____

Complications: _____

Frequency may be every** diabetes-related **visit – to be determined by physician

Every Visit						
Indicators	Frequency*	Goals *(1)*	Date/ Results	Date/ Results	Date/ Results	Date/ Results
Height	**Every Visit**					
Weight or BMI Percentage	**Every Visit**					
Tanner Stage	**Yearly**					
Blood Pressure	**Every Visit**	**Age specific guidelines**				
Foot Exam/Pulses (2)	**Every Visit**					
Skin/injection Sites	**Every Visit**					
Blood Glucose	**Every Visit**					
Review of Self-Blood Glucose Monitoring Record (3)	**Every Visit**	**Age specific guidelines**				
Review/Update Current Meds	**Every Visit**					
Tobacco Use Status -Using/Doesn't Use -Smoking Cessation if using	**Every Visit**					
A1c (Hemoglobin A1c)	**Every Three Months**	**Minimum goal <7%**				

Yearly			
Indicators	Frequency*	Goals *(1)*	Date/Results
Abdominal Exam	**Yearly**		
Neurological Exam/Depression Screening	**Yearly**		
Cardiac Assessment/Pulses	**Yearly**		
Thyroid Assessment (4)	**Yearly**		
Referred for Dilated Eye Exam (5)	**Yearly**	**Exam Date/ Physician:**	
Total Cholesterol (6)	**Yearly**	**<170 mg/dl**	
HDL-C (6)	**Yearly**		
Triglycerides (6)	**Yearly**		
Calculated or Measured LDL Assessment (6)	**Yearly**	**≤100 mg/dl** (6)	
Random spot urine for albumin /creatinine ratio or 24-hour urine for micro albumin (7)	**Yearly**	**<30 ug/mg creatinine** **<30 mg/24 hr**	
Influenza Vaccine	**Yearly**	**Date/locatio n:**	
Pneumococcal Vaccination (8)		**Date/Locati on:**	

(29) Based on American Diabetes Association: Standards of Medical Care for Patients With Diabet 28 (Supp. 1): January 2005.

(30) Annual comprehensive foot exam.

(31) Daytime: <5 years. 100-200; >5 years, 70-150 or as determined by physician; nighttime: <5 yea 180 or as determined by physician.

(32) Thyroid function tests annually with type 1; type 2, at time of diagnosis and as indicated.

(33) Type 1, annually 5 years after onset; type 2, annually by ophthalmologist or optometrist exper diabetes retinopathy.

(34) Perform a fasting lipid panel on all children >2 years at the time of diagnosis (after glucose co established); if values are within normal levels and family history is not a concern, follow-up is re intervals thereafter. (Nebraska Diabetes Consensus Guidelines Task Force recommendation.)

(35) Annual screening once child is 10 years of age. (Nebraska Diabetes Consensus Guidelines Ta recommendation.)

(36) Centers for Disease Control and Prevention Guidelines.

BASIC SELF-MANAGEMENT EDUCATION – ROUTINE VISITS - PEDIATRIC PATIENTS

	Date	Comments – Update Yearly for A
Lifestyle review**: (smoking, alcohol, stress, depression, birth control, pre-pregnancy counseling)**		
Sick day management and Urine ketone testing		
Medication administration		
Self blood glucose monitoring		
Hypoglycemia treatment		**80-180 mg/dl pre-meals;** **≤200 mg/dl at bedtime**
Nutrition management		
Physical activity management		
Foot care (separate sheet)		
Eye care (separate sheet)		
Nephropathy		
Hypertension (high blood pressure)		
Formal Self-Management Diabetes Education		

GUIDELINES OF MEDICAL CARE FOR ADULT PATIENTS WITH DIABETES *(1) (Rev. 04/05)*

These are guidelines to be adapted into the clinician's practice recommended by: Nebraska Diabetes Consensus Guidelines Task Force.

Patient Name: _____ Date of Birth: ___/___/___ Year of Diagnosis ____

Attended Diabetes Self-Management Classes: Yes ___ No ___ If yes, When/Where: _____

Follow-up Education with CDE/RD: Yes ___ No ___ If yes, When/Where: _____

Tobacco Use Status: Uses ____ Doesn't Use _____

Complications: _____

Height: _____

EVERY VISIT

DATE	WEIGHT Or BMI *(2)*	BP	BG LOG	CURRENT MEDS	FOOT EXAM *(3)*	SKIN	SMOKING
GOAL *(1)*	_____	<130/80	80-120 fasting 100-140 at bedtime	Review/update	Skin/Sensation/ Vascular	Injection sites if on insulin	Discuss if still using
Consider daily aspirin use			**81-325 mg.**				
Consider ACE inhibitors			ACEI/ARB				
Consider Statins							
A1c (Hemoglobin A1C) Quarterly			Min. goal <7%)*(4)*				
Dental Exam Twice/Year			Date & Dentist				

ANNUAL EXAM & TESTS

History Update:		**Total Cholesterol** <200 mg/dl *(5)*		**Random spot urine for albumin/ creatinine ratio or 24-hr urine for micro albumin**: <30 ug/mg *(7)*	
Abdominal Exam:		**HDL** >40 mg/dl M >50 mg/dl F *(5)*		**Thyroid Assessment** *(8)*	
Neurological Exam/ Depression Screen:		**Triglycerides** <150 mg/dl *(5)*		**Referral for dilated eye exam** *(9)*	
Cardiac Exam & Pulses:		**Calc./Measured** LDL <100 mg/dl *(5) (6)*		**Influenza Vaccine**	
				Pneumococcal Vaccination *(10)* (Date Given)	

1. Based on American Diabetes Association: Standards of Medical Care for Patients with Diabetes Mellitus. Diabetes Care 28 (Supp. 1), 2005.
2. Healthy BMI: 18.5-24.9; underweight BMI: less than 18.5; overweight BMI: 25.0-29.9; obese BMI: 30 or more.
3. Annual comprehensive foot exam recommended.
4. AACE recommends < 6.5%.
5. Lipid profile, annually. If within normal limits, the clinician may consider obtaining less frequently.
6. 2004 National Cholesterol Education Program (NCEP) clinical practice guidelines recommend treating to <70 mg/dL. Adult Treatment Panel (ATP) III goal is <100 for high-risk patients and <70 for very high-risk patients.
7. Five years after diagnosis, then annually at adolescence for type 1; at diagnosis for type 2.
8. Thyroid function tests when indicated.
9. Annually both by ophthalmologist or optometrist experienced in management of diabetes retinopathy.
10. Centers for Disease Control & Prevention Guidelines: once and repeat after 65 years of age if greater than 5 years after last vaccination. (MMWR Vol. 46 pg. 11.)

Diabetes Eye Exam Report

At this year's meeting of the Nebraska Diabetes Consensus Guidelines Task Force the importance of an annual dilated eye exam for persons with diabetes was discussed at length.

Important background rationale to consider:

- Diabetic retinopathy is the most frequent cause of new cases of blindness among adults aged 20-74 years*
- During the first two decades following the onset of diabetes, nearly all patients with type 1 diabetes and >60% of patients with type 2 diabetes have retinopathy*
- More than 30,000 people in Nebraska age 18 and older have diabetic retinopathy*
- Knowledge of the presence of retinopathy is a useful tool for the primary care physician in the overall management of diabetes

The American Diabetes Association recommends a dilated retinal eye examination as an annual standard of care for persons with diabetes:*

- Under age 10: based on clinical judgement
- Type 1: within 3-5 years of diagnosis
- Type 2: at time of diagnosis of diabetes; annually thereafter. In known pregnancy, dilated eye exam every trimester.

**Diabetes Care, Volume 28, Supplement 1, January 2005*

The Task Force recommended including a suggested Diabetes Eye Exam Report in the annual guidelines mailing. Several formats were considered and all have merits but the enclosed form was selected as an example for health care professionals to consider for their patients with diabetes. As with all of our flow sheets and health care forms, this may be altered to fit your individual program and copied as needed. Additional copies can be requested from the Diabetes Prevention and Control Program, PO Box 95044, Lincoln, NE 68509, phone: 1-800-745-9311.

It is suggested that the primary care physician give this form to patient to take with them when they receive their annual dilated eye exam. The examining ophthalmologist or optometrist would complete the form and send or fax it to the patient's primary care physician.

This is part of the Task Force's effort to insure that people with diabetes receive complete, consistent care for their diabetes that meets the minimum ADA guidelines. Your consideration of using this form, as well as the other enclosed suggested forms, will aid in our efforts to improve the standards of care in Nebraska for all people with diabetes.

DIABETIC EYE EXAM REPORT

TO: _____ **Clinic/Office:** _____

Address: _____

Phone: _____ **Fax:** _____ _____

Patient Name: _____ DOB: _____

Visual Acuity: _____ R _____ L Intraocular Pressure _____ R _____ L

Retinal Examination Findings:

_____ No retinopathy or past retinopathy and should be examined in one year

_____ Needs no laser now, but should return in _____ months because of risk of developing diabetic macular edema (DME) or high risk of proliferative diabetic retinopathy (PDR)

_____ Diabetic macular edema requiring focal laser photocoagulation

_____ High risk proliferative diabetic retinopathy or iris neovascularization requiring panretinal photocoagulation

_____ Tractional retinal detachment or vitreous hemorrhage requiring vitrectomy

Other Ocular Conditions

_____ Not Applicable

Cataracts:

_____ Does interfere with activities of daily living

_____ Does not interfere with activities of daily living

Glaucoma:

_____ Controlled

_____ Sub-optimally controlled

Plan of Treatment: Follow-up _____ weeks/months

_____ Refer to Retina Specialist OR:

(check appropriate treatment plan) *(Circle right eye "R" or left eye "L" or both "B")*

_____ Fluorescein angiogram	R	L	B
_____ Panretinal laser photocoagulation	R	L	B
_____ Focal laser photocoagulation	R	L	B
_____ Vitrectomy	R	L	B
_____ Cataract Surgery	R	L	B

_____ Other:

Eye Care Provider (M.D. or O.D.)

Print Name: _____ Signature: _____ _____
Date

_____ _____ _____
Clinic/Office Name Phone Fax

I give my permission to release this form to my physician _____ _____
Patient's Signature Date

Summary of
AMERICAN DIABETES ASSOCIATION'S CRITERIA FOR TESTING FOR DIABETES IN ASYMPTOMATIC INDIVIDUALS

ADULTS

Testing should be considered in all individuals at age 45 and above, particularly in those with BMI≥ 25*. If normal, should be repeated at 3-year intervals.
Testing should be considered at a younger age or more frequently in individuals who are overweight (BMI≥ 25*) and have additional risk factors as in *Table 1.*

***May not be correct for all ethnic groups.**

Table 1 Risk Factors for Type 2 Diabetes in Adults
Have a first-degree relative with diabetes (i.e., parents or siblings)
Habitual physical inactivity
High-Risk Race/ethnicity (e.g., African American, Latino, Native American, Asian American and Pacific Islander)
History of GDM or delivery of a baby weighing > 9 lbs
Hypertension (≥ 140/90 mmHg)
HDL cholesterol <35 mg/dl (0.90 mmol/l) and/or triglyceride level >250 mg/dl (2.82 mmol/l)
Polycystic ovary syndrome
IGT or IFG on previous testing
Other clinical conditions associated with insulin resistance (acanthosis nigracans)
History of vascular disease

CHILDREN AND ADOLESCENTS

Testing should be considered for overweight children (see *Table 2*) starting at age 10 years (or at the onset of puberty if it occurs at a younger age) ***and*** have any two of the risk factors listed in *Table 3.* Repeat testing every 2 years. Fasting Plasma Glucose Preferred Test.

Table 2 Definitions of Overweight for Children & Adolescents
1. BMI >85th percentile for age and sex, or
2. Weight for height >85th percentile, or
3. Weight >120% of ideal (50th percentile) for height.

Table 3 Risk Factors for Type 2 Diabetes in Children and Adolescents
Family history of type 2 diabetes in first- or second-degree relative
Race/ethnicity (e.g., African American, Latino, Native American, Asian American and Pacific Islander)
Signs of insulin resistance or conditions associated with insulin resistance (acanthosis nigricans, polycystic ovary syndrome, hypertension or dsylipidemia).

NOTE: Clinical judgment should be used to test for diabetes in high-risk patients who do not meet these criteria.

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Diabetes Prevention & Control Program
Nebraska Health and Human Services
PO Box 95044
Lincoln, NE 678509
1 800 745-9311

Summary of
AMERICAN DIABETES ASSOCIATION
CRITERIA FOR THE DIAGNOSIS OF DIABETES

Normoglycemia	Pre-Diabetes (IFG or IGT)	Diabetes*
		Symptoms of diabetes and a casual plasma glucose > 200 mg/dl Symptoms: (polyuria, polydipsia and unexplained weight loss) Casual: (defined as any time of day without regard to time since last meal)
FPG < 100 MG/DL	FPG ≥ 100 AND < 126 MG/DL	***or*** FPG ≥ 126 MG/DL
or 2-h PG** < 140 MG/DL	***or*** 2-h PG** ≥ 140 and < 200 mg/dl	***or*** 2-h PG** > 200 mg/dl 11

Notes:
*In the absence of unequivocal hyperglycemia, a diagnosis of diabetes must be confirmed, on a subsequent day, by measurement of FPG, 2-h PG, or random plasma glucose (if symptoms are present). The FPG test is greatly preferred because of ease of administration, convenience, acceptability to patients and lower cost. Fasting is defined as no caloric intake for at lest 8 hours.

**This test requires the use of a glucose load containing the equivalent of 75 g anhydrous glucose dissolved in water. 2-h PG, 2-h postload glucose.

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